PROCEDURE T DATA SHEET

Project: Ferrara Pan Candies
Location: Big Chocolate Room
Date: 4/26/03

Sketch enclosure, all ducts, NDOs and potential VOC emission points on accompanying page. Label all dimensions.

Enclosure Designation: PTE
Control Devices (s): _____

Process(es) Enclosed: _____

NDO to VOC Emission Point

NDO	Dimensions	Equivalent Diameter	VOC Emission Point	Distances		Pass/ Fail?
				Minimum	Actual	
Door	1"x6.5'	0.838	Polisher	3.322	186"	Pass
Hole in Room	16"	1.396	Polisher	5.584	264"	Pass
Door	2"x3.5'	0.552	11	2.207	186"	Pass

$$\text{NDOs equivalent diameter} = \left(\frac{4 \times \text{area}}{\pi}\right)^{0.5}$$

Minimum Allowed Distance = 4 × Equivalent Diameter (NDO)

NDO to Exhaust (TTE only)

Exhaust Point	Dimensions	Equivalent Diameter	NDO	Dimensions	Equivalent Diameter	Distances		Pass/ Fail?
						Minimum	Actual	

$$\text{Equivalent diameter} = \left(\frac{4 \times \text{area}}{\pi}\right)^{0.5}$$

Minimum Allowed Distance = 4 × Equivalent Diameter (NDO or Exhaust Point)

PROCEDURE T DATA SHEET (cont.)

Near Ratio [NDO Area/Total Enclosure Area]

NDO	Surface Area (FT^2)	Wall, Ceiling, or Floor Section	Surface Area (FT^2)
Table	5.582	43'5" x 10' (2)	434.17 (2)
Door	0.542	21'2" x 10' (2)	211.67 (2)
Door	0.583	44' x 10'	440.0
		32' x 10'	320.0
		31.5' x 10'	315.0
		16' x 13' (2)	208.0 (2)
		48' x 13'	624.0
		36' x 13'	468.0
		21'2" x 44' (2)	
TOTAL NDO AREA= 6.207		TOTAL ENCLOSURE AREA= 11,094.50	

44' x 43' 5" (2)
46' x 10' (2)

NEAR ratio:

$\frac{\text{NDO Area}}{\text{Enclosure Area}} =$ 0.00067

Allowable NEAR ratio ≤ 0.05,

Pass/Fail? Pass

Velocity of Air through NDO

Exhausted Air			Make Up Air	
Exhaust Point	SCFM	Controlled? (Y/N?)	Make up point	SCFM
TOTAL			TOTAL	

total NDO area - _____ ft^2
(from section 5.2)

$\frac{\text{Exhaust scfm - 1 make up scfm}}{\text{NDO area } (ft^2)} =$ _____ fpm

fpm should be ≥ 200

pass/fail? _____

Test #1 0.026, 0.018
Test #2 0.025, 0.018
Test #3 0.027, 0.020
Test #4 0.028, 0.024

PROCEDURE T DATA SHEET (cont.)

Direction of Air through NDO

Method used to check direction of airflow:

☐ Smoke Tubes ☑ Velometer ☐ Plastic Strips ☐ Other: _____

NDO	No.	Normally		Direction of Air Flow			NDO Required to be Normally Closed?	All Points?*
		Open	Closed	Into Enclosure	Out of Enclosure	Swirled		
Door			✓	✓			Yes	Yes
Hole		✓		✓			No	Yes

*Check to verify that airflow was checked at top, bottom, middle, and both sides of enclosure.

Status of doors and windows

Are all access doors and windows whose areas are not included as NDOs closed during normal operation.
☐ Yes ☐ No

Capture of VOC Emissions

Does all exhaust ductwork go to control (for PTE) or to a point where it can be measured (for TTE).
☐ Yes ☐ No

PROCEDURE T DATA SHEET

Project: Ferrara Pan Candies
Location: West Polishing Room
Date: 6/26/03

Sketch enclosure, all ducts, NDOs and potential VOC emission points on accompanying page. Label all dimensions.

Enclosure Designation: _____ Process(es) Enclosed: _____
Control Devices (s): _____

NDO to VOC Emission Point

NDO	Dimensions	Equivalent Diameter	VOC Emission Point	Distances		Pass/ Fail?
				Minimum	Actual	
Door #1	1/4" x 8.25" (2)	0.135 (x2)	Polishing Tubs	0.54'	7.5'	Pass
	1 1/2" x 12"	0.399	"	1.596'	7.5'	Pass
	1/8" x 30"	0.182	"	0.728'	7.5'	Pass
Door #2	1/4" x 8" (2)	0.135 (2)	"	0.54'	7.5'	Pass
	1/8" x 30"	0.182	"	0.728'	7.5'	Pass

$$\text{NDOs equivalent diameter} = \left(\frac{4 \times \text{area}}{\pi}\right)^{0.5}$$

Minimum Allowed Distance = 4 × Equivalent Diameter (NDO)

NDO to Exhaust (TTE only)

Exhaust Point	Dimensions	Equivalent Diameter	NDO	Dimensions	Equivalent Diameter	Distances		Pass/ Fail?
						Minimum	Actual	

$$\text{Equivalent diameter} = \left(\frac{4 \times \text{area}}{\pi}\right)^{0.5}$$

Minimum Allowed Distance = 4 × Equivalent Diameter (NDO or Exhaust Point)

PROCEDURE T DATA SHEET (cont.)

Near Ratio [NDO Area/Total Enclosure Area]

NDO	Surface Area (FT^2)	Wall, Ceiling, or Floor Section	Surface Area (FT^2)
Door #1	0.014	89'10" x 10'	898.33
	0.014	32' x 10'	320.0
	0.105	32' x 10'	320.0
	0.026	13" x 10'	10.83
Door #2	0.014	41' 1" x 10'	410.83
	0.014	38'9" x 10'	387.5
	0.026	89'10" x 32' (2)	5749.34
TOTAL NDO AREA= 0.233		TOTAL ENCLOSURE AREA= 8096.83	

NEAR ratio:

$\frac{\text{NDOArea}}{\text{EnclosureArea}} = 0.00003$

Allowable NEAR ratio ≤ 0.05,

Pass/Fail? Pass

Velocity of Air through NDO

Exhausted Air			Make Up Air	
Exhaust Point	SCFM	Controlled? (Y/N?)	Make up point	SCFM
TOTAL			TOTAL	

total NDO area = _____ ft^2
(from section 5.2)

$\frac{\text{Exhaust scfm - 1 make up scfm}}{\text{NDO area } (ft^2)} =$ _____ fpm

fpm should be ≥ 200

pass/fail? _____

Test #1: 0.005, 0.016
Test #2 = 0.022, 0.020
Test #3 = 0.020, 0.018
Test #4 = 0.022, 0.021

PROCEDURE T DATA SHEET (cont.)

Direction of Air through NDO

Method used to check direction of airflow:

☐ Smoke Tubes ☒ Velometer ☐ Plastic Strips ☐ Other: _____

NDO	No.	Normally		Direction of Air Flow			NDO Required to be Normally Closed?	All Points?*
		Open	Closed	Into Enclosure	Out of Enclosure	Swirled		
Door #1			✓	✓			Yes	Yes
Door #2			✓	✓				

***Check to verify that airflow was checked at top, bottom, middle, and both sides of enclosure.**

Status of doors and windows

Are all access doors and windows whose areas are not included as NDOs closed during normal operation.
☒ Yes ☐ No

Capture of VOC Emissions

Does all exhaust ductwork go to control (for PTE) or to a point where it can be measured (for TTE).
☒ Yes ☐ No

PROCEDURE T DATA SHEET

Project: Ferrara Pan Candies
Location: Ferrara Pan Chocolate Room
Date: 6/26/03

Sketch enclosure, all ducts, NDOs and potential VOC emission points on accompanying page. Label all dimensions.

Enclosure Designation: PTE
Process(es) Enclosed:
Control Devices (s):

NDO to VOC Emission Point

NDO	Dimensions	Equivalent Diameter	VOC Emission Point	Distances		Pass/ Fail?
				Minimum	Actual	
Door	1" x 6'	~~9.58"~~	Private	38.3'	144"	Pass

$$\text{NDOs equivalent diameter} = \left(\frac{4 \times \text{area}}{\pi}\right)^{0.5}$$

Minimum Allowed Distance = 4 × Equivalent Diameter (NDO)

NDO to Exhaust (TTE only)

Exhaust Point	Dimensions	Equivalent Diameter	NDO	Dimensions	Equivalent Diameter	Distances		Pass/ Fail?
						Minimum	Actual	

$$\text{Equivalent diameter} = \left(\frac{4 \times \text{area}}{\pi}\right)^{0.5}$$

Minimum Allowed Distance = 4 × Equivalent Diameter (NDO or Exhaust Point)

PROCEDURE T DATA SHEET (cont.)

Near Ratio [NDO Area/Total Enclosure Area]

NDO	Surface Area (FT^2)	Wall, Ceiling, or Floor Section	Surface Area (FT^2)
Door	0.5	56'x10' (2)	560 (2)
		22'9"x10'	227.5
		16'9"x10'	167.5
		22'9"x56' (2)	1274 (2)
TOTAL NDO AREA= 0.5		**TOTAL ENCLOSURE AREA=** 4063	

NEAR ratio:

$\frac{\text{NDO Area}}{\text{Enclosure Area}} =$ 0.0001

Allowable NEAR ratio ≤ 0.05,

Pass/Fail? Pass

Velocity of Air through NDO

Exhausted Air			Make Up Air	
Exhaust Point	**SCFM**	**Controlled? (Y/N?)**	**Make up point**	**SCFM**
TOTAL			**TOTAL**	

total NDO area - _____ ft^2
(from section 5.2)

$\frac{\text{Exhaust scfm - 1 make up scfm}}{\text{NDO area } (ft^2)} =$ _____ fpm

fpm should be ≥ 200

pass/fail? _____

Test #1 = 0.011

Test #2 = 0.009

Test #3 = 0.012

Test #4 = 0.010

PROCEDURE T DATA SHEET (cont.)

Direction of Air through NDO

Method used to check direction of airflow:

☐ Smoke Tubes ☒ Velometer ☐ Plastic Strips ☐ Other: _____

NDO	No.	Normally Open	Normally Closed	Direction of Air Flow: Into Enclosure	Direction of Air Flow: Out of Enclosure	Direction of Air Flow: Swirled	NDO Required to be Normally Closed?	All Points?*
Door			✓	✓			Yes	Yes

***Check to verify that airflow was checked at top, bottom, middle, and both sides of enclosure.**

Status of doors and windows

Are all access doors and windows whose areas are not included as NDOs closed during normal operation.
☒ Yes ☐ No

Capture of VOC Emissions

Does all exhaust ductwork go to control (for PTE) or to a point where it can be measured (for TTE).
☒ Yes ☐ No

PROCEDURE T DATA SHEET

Project: Ferrara Pan Candies
Location: Mint Room
Date: 6/26/03

Sketch enclosure, all ducts, NDOs and potential VOC emission points on accompanying page. Label all dimensions.

Enclosure Designation: PTE
Control Devices (s): _____

Process(es) Enclosed: _____

NDO to VOC Emission Point

NDO	Dimensions	Equivalent Diameter	VOC Emission Point	Distances		Pass/ Fail?
				Minimum	Actual	
Door	1"x8'	11.1"	Polisher	44.4"	144"	Pass

$$\text{NDOs equivalent diameter} = \left(\frac{4 \times \text{area}}{\pi}\right)^{0.5}$$

Minimum Allowed Distance = 4 × Equivalent Diameter (NDO)

NDO to Exhaust (TTE only)

Exhaust Point	Dimensions	Equivalent Diameter	NDO	Dimensions	Equivalent Diameter	Distances		Pass/ Fail?
						Minimum	Actual	

$$\text{Equivalent diameter} = \left(\frac{4 \times \text{area}}{\pi}\right)^{0.5}$$

Minimum Allowed Distance = 4 × Equivalent Diameter (NDO or Exhaust Point)

PROCEDURE T DATA SHEET (cont.)

Near Ratio [NDO Area/Total Enclosure Area]

NDO	Surface Area (FT^2)	Wall, Ceiling, or Floor Section	Surface Area (FT^2)
Door	0.667	48'×12' (2)	576.0 (2)
		60'×12'	720.0
		52'×12'	624.0
		60'×48' (2)	2880 (2)
TOTAL NDO AREA= 0.667		TOTAL ENCLOSURE AREA= 8256	

NEAR ratio:

$\frac{\text{NDO Area}}{\text{Enclosure Area}}$ = 0.00008

Allowable NEAR ratio ≤ 0.05,

Pass/Fail? Pass

Velocity of Air through NDO

Exhausted Air			Make Up Air	
Exhaust Point	SCFM	Controlled? (Y/N?)	Make up point	SCFM
TOTAL			TOTAL	

total NDO area - _____ ft^2
(from section 5.2)

$\frac{\text{Exhaust scfm - 1 make up scfm}}{\text{NDO area } (ft^2)}$ = _____ fpm

fpm should be ≥ 200

pass/fail? _____

Test #1 - 0.012

Test #2 - 0.008

Test #3 = 0.007

Test #4 = 0.009

PROCEDURE T DATA SHEET (cont.)

Direction of Air through NDO

Method used to check direction of airflow:

☐ Smoke Tubes ☒ Velometer ☐ Plastic Strips ☐ Other: _____

NDO	No.	Normally Open	Normally Closed	Direction of Air Flow: Into Enclosure	Direction of Air Flow: Out of Enclosure	Direction of Air Flow: Swirled	NDO Required to be Normally Closed?	All Points?*
Door			✓	✓			Yes	Yes

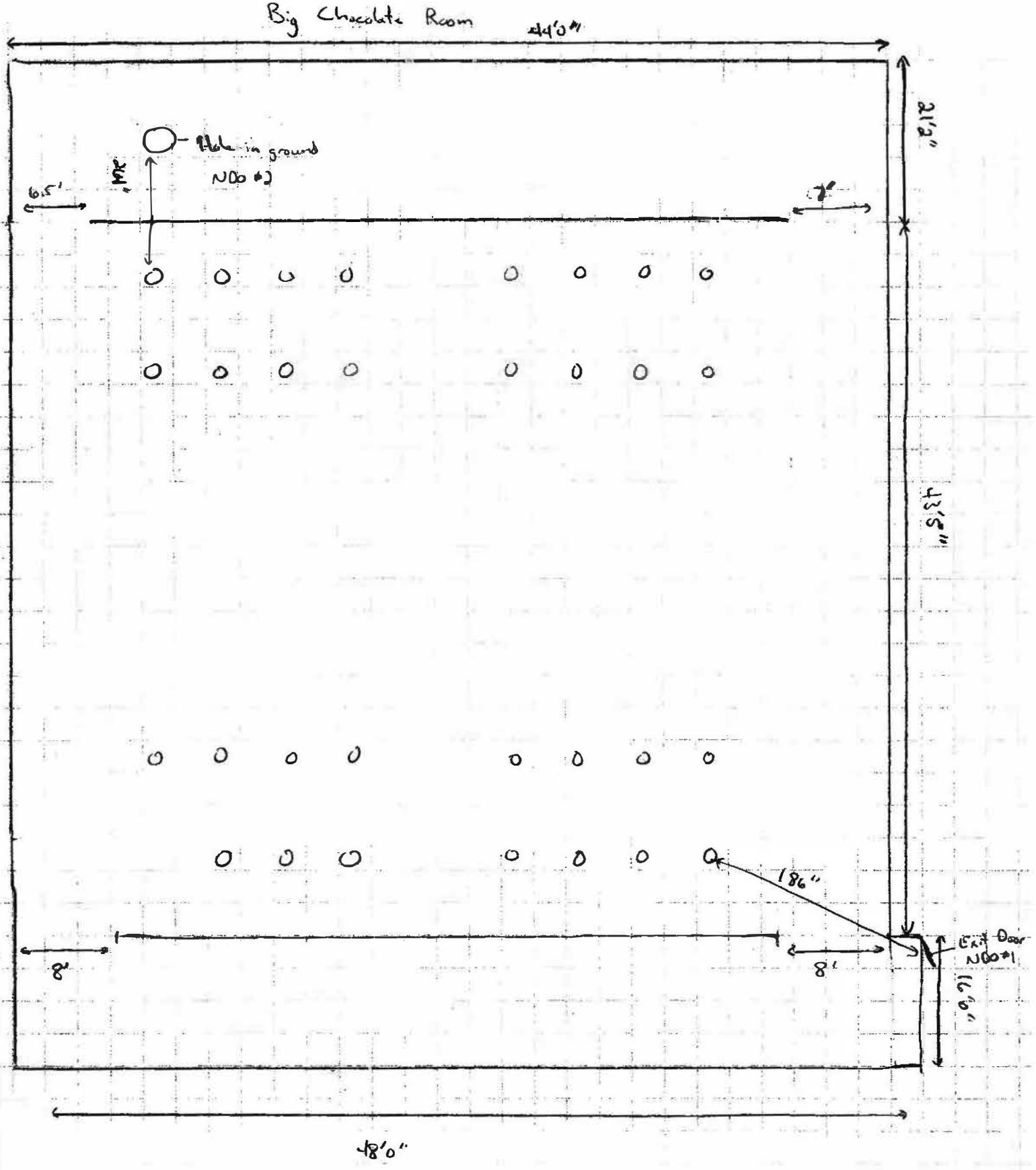
*Check to verify that airflow was checked at top, bottom, middle, and both sides of enclosure.

Status of doors and windows

Are all access doors and windows whose areas are not included as NDOs closed during normal operation.
☒ Yes ☐ No

Capture of VOC Emissions

Does all exhaust ductwork go to control (for PTE) or to a point where it can be measured (for TTE).
☒ Yes ☐ No


Big Chocolate Room
44'0"
21'3"
Hole in ground
NOO #2
6.5'
7'
43'5"
186"
8'
8'
Exit Door
NOO#1
11'6"
48'0"

West Polishing Room